

## **EXECUTIVE SUMMARY**

The Department of Energy (DOE), National Nuclear Security Administration (NNSA) has responsibility for national programs to reduce and counter threats from weapons of mass destruction including nuclear, chemical, and biological weapons (bioweapons). NNSA's bioscience work at Los Alamos National Laboratory (LANL) in support of these missions require work with infectious agents, including those historically used for bioweapons. Pioneering technologies and capabilities at LANL, particularly in the synergy of biological science with engineering, computational, and physics capabilities, have been recognized by national leaders involved in planning and addressing the increasing national security concerns that focus on bioagent (biological agent) counter-terrorism technologies, and the countering of emerging natural diseases. As a result, the need to work with bioagents at LANL and within NNSA is growing. At this time, DOE does not have under its administrative control any microbiological laboratory facility capability beyond Biosafety Level (BSL)-2. BSL-3 facilities provide sites for safe and secure manipulation and storage of infectious microorganisms. The nature of BSL-3 work requires efficient sample processing, handling of a variety of organisms concurrently, and assurance of sample security and integrity. NNSA's mission requirements for sample integrity necessitates that the chances of cross-contamination and degradation of samples are minimized by reducing excessive handling and transportation. The few offsite BSL-3 facilities available to NNSA are often heavily committed to other projects or tailored to work with specific types of microorganisms. In order to more effectively utilize and capitalize on existing onsite facilities and capabilities at LANL, and ensure the quality, integrity and security of microbiological work, NNSA needs BSL-3 laboratory capability located at LANL.

The Proposed Action and alternatives differ in how the facility would be constructed. In each of the alternatives, the BSL-3 facility could be located in one of three potential locations at LANL. Two of the potential locations are within Technical Area (TA)-3 and one is within TA-58. Under all alternatives and at each location option, the facility would be designed and operated in accordance with guidance for BSL-2 and BSL-3 laboratories established by the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH). Physical security would be implemented commensurate with the level of work being performed within the facility. No radiological, high explosives, or propellant material would be used or stored in the BSL-3 facility and no research animals or plants would be housed in the facility. Sample shipments would only be received at the BSL-3 facility and only in compliance with all established shipping guidelines and requirements. The samples would be stored in the BSL-3 laboratory within a locked freezer, or refrigerator according to the needs of the sample for preservation. Biological wastes would be disposed of in accordance with CDC and NIH guidance.

The Proposed Action is to construct an approximately 3,000 square foot, one-story permanent facility which includes two BSL-3 laboratories with adjoining individual mechanical rooms separated by a central support BSL-2 laboratory; clothes-change and shower rooms; and associated office spaces. In all three potential locations the construction

and operation of the facility would be the same. It is estimated that the operational design life of the proposed building would be at least 30 years.

Under the Partial Prefabrication/Build Alternative, NNSA would purchase and install ready-assembled prefabricated BSL-2 and BSL-3 modular units to form a new BSL-3 facility. Transportation of the buildings, construction of their concrete footings, and the use of a crane to position the buildings would be required for this alternative. The estimated useful life span of the modular facility at the minimum would be about 20 years. This alternative would not be in accordance with the NNSA and LANL general initiatives against non-permanent structures but would meet NNSA's purpose and need for action.

Under the Prefabrication Alternative, the NNSA would purchase, install and operate a ready-assembled prefabricated BSL-3 laboratory modular unit as a stand-alone facility while constructing a permanent building onsite to house a BSL-3 facility as described by the Proposed Action. This alternative would require the delivery and installation of a small (less than 1,000 square foot) modular unit equipped to function as a stand-alone BSL-3 laboratory at one of the optional construction sites or at a similar LANL site where utility services were already available such as at TAs 54 and 16. The small modular facility would require the support of existing LANL BSL-2 laboratories and office spaces for some of the operational activities required. It is anticipated that the modular BSL-3 facility would be operated for about 12 to 18 months while the construction of the permanent on-site BSL-3 facility was undertaken. Upon completion of the permanent facility and the initiation of its operation, the small modular BSL-3 facility would be decontaminated and decommissioned or reused.

Under the No Action Alternative, NNSA would not construct or place a BSL-3 facility at LANL. In this event, NNSA would continue to have their BSL-3 laboratory needs met by existing or new BSL-3 laboratories located offsite from LANL. There would continue to be certain NNSA national security mission needs that could not be met in a timely fashion, or that may not be able to be met at all. The No Action Alternative would not meet the NNSA's identified purpose and need for action.

The environmental consequences from site preparation, construction and routine operation are minor and do not differ greatly between the three optional locations or among the Proposed Action and alternatives. Each of the three sites was selected for previous disturbance and availability of utilities. Potential effects to the environment from the proposed facility are mostly related to human health effects during operation. The potential human health effects of the proposed BSL-3 laboratory would be the same as those demonstrated for similar CDC-registered laboratories that are required to implement the guidelines established mutually by the CDC and NIH. Relevant human health information gathered from LANL's past experience with BSL-1 and BSL-2 laboratories, from the U.S. Bureau of Labor Statistics and from anecdotal information in published reports, indicates that while laboratory-acquired or laboratory-associated infections sometimes occur, they should be considered abnormal events due to their infrequency of occurrence (see Appendix F). As such, the potential human health effects from these events are discussed as Abnormal Events

and Accidents. No cases of illness are expected to result from implementing the Proposed Action as a result of an abnormal event or accident.